Assignment 9

Textbook Assignment: "Oxygen Components Test Stands." Pages 11-1 through 11-21.

Learning Objective: *Recognize the properties of oxygen, its density and state according to temperature/pressure conditions, and the adverse effects caused by oxygen deficiency.*

9-1. At what minimum altitude is it necessary to use a positive pressure breathing regulator?

1. 18,000 ft
2. 20,000 ft
3. 25,000 ft
4. 35,0O0 ft

9-2. A demand (inhalation) regulator CANNOT supply enough oxygen for the user above what maximum altitude?

1. 32,000 ft
2. 33,000 ft
3. 35,000 ft
4. 43,000 ft

9-3. What term is used to describe the condition when the body receives an insufficient amount of oxygen to function properly?

1. Anoxia
2. Aphyxia
3. Hypoxia
4. Suffocation

9-4. Which of the following terms refers to a complete lack of oxygen to the body?

1. Anoxia
2. Asphyxia
3. Hypoxia
4. Suffocation

9-5. The atmosphere contains about what percentage of oxygen by volume?

1. 10%
2. 21%
3. 33%
4. 23%

9-6. Combustion is a form of rapid oxidation. Which of the following examples represents} slow oxidation?

1. Rusting iron
2. Paint turning brittle
3. Alcohol turning into vinegar
4. All of the above

9-7. The atmosphere contains about what percentage of nitrogen by volume?

1. 21%
2. 23%
3. 33%
4. 78%

9-8. What is the weight of 2 gallons of liquid oxygen?

1. 17.00 lb
2. 19.08 lb
3. 21.00 lb
4. 21.08 lb

9-9. Liquid oxygen changes to gaseous oxygen at an expansion ratio of

1. 520 to 1
2. 682 to 1
3. 862 to 1
4. 986 to 1

9-10. With an applied pressure of 750 psi, at what temperature will oxygen begin to take on its liquid form?

1. -147°F
2. -182°F
3. -280°F
4. -297°F

9-11. Oxygen procured by the Navy and tested at a temperature of 70°F must have a purity of 99.5% and a water content of no more than how many milligrams per liter?

1. 0.01
2. 0.02
3. 0.03
4. 0.04

Learning Objective: *Recognize the systems and the operation of the 1172AS1OO test stand.*

9-12. What is used as the pressure source on the 1172ASI00 test stand?

1. Oxygen
2. Helium
3. Nitrogen
4. Argon

9-13. The 1172AS1O0 test stand can evaluate items under test at altitudes of up to how many feet?

1. 50,000
2. 75,000
3. 100,000
4. 150,000

9-14. How many on-off valves are incorporated into this test stand?

1. One
2. Two
3. Three
4. Four

9-15. The reference pressure selector valve has how many operating positions?

1. One
2. Two
3. Three
4. Four

9-16. Which of the following valves indicates inches of water suction?

1. Reference pressure-selector valve
2. Pressure-selector valve
3. Leakage-selector valve
4. Flow–selector valve

9-17. What is the principle of operation of a Vol-O-Flo element?

1. Flow pressure
2. Flow suction
3. Flow restriction
4. Flow detection

9-18. Where are the Vol-O-Flo elements installed on the 1172AS100 test stand?

1. On control valves and selector valves
2. Between certain control valves and their indicating manometers
3. On certain on-off valves and control valves
4. Between selector valves and their indicating manometers

9-19. How many Vol-O-Flo elements are incorporated into the 1172AS100 test stand?

1. One
2. Two
3. Three
4. Four

9-20. Which of the following valves allows ambient air pressure into the chamber through the input Vol-O-Flo element?

1. System bleed valve
2. Chamber bleed valve
3. Output valve
4. Input valve

9-21. Which of the following valves has a manometer?

1. Flutter dampener
2. Chamber bleed
3. Output
4. System bleed

9-22. Why is the vent ambient valve considered an economizer valve?

1. It conserves ambient air
2. It is used at sea level
3. It is a nonmeasuring valve
4. It conserves nitrogen

9-23. The proper way to use the shut-off valve is to open it fully, then turn it back how far?

1. 1/8 turn
2. 1/4 turn
3. 1/2 turn
4. 3/4 turn

9-24. The high pressure regulator of the 1172AS1OO test stand supplies gas to a system from a minimum psig to the maximum psig of the supply cylinder used. The gas is regulated at what minimum psig?

1. 100
2. 150
3. 200
4. 250

9-25. What is the range of the input pressure gauge?

1. 0 to 160 psi
2. 0 to 200 psi
3. 0 to 2,000 psi
4. 0 to 3,000 psi

9-26. What is the range of the regulated low-pressure gauge?

1. 0 to 160 psi
2. 0 to 200 psi
3. 0 to 2,000 psi
4. 0 to 3,000 psi

9-27. What is the range of the pressure/suction manometer?

1. -3.5 to +20.0) in H_2O
2. -5.5 to +20.0 in H_2O
3. -9.5 to +22.0 in H_2O
4. -12.0 to +26.0 in H_2O

9-28. What is the range of the high range leakage rotameter?

1. 20 to 200 ccm
2. 20 to 2,000 psig
3. 200 to 2,000 ccm
4. 200 to 2,000 psig

9-29. Which of the following formulas is correct?

1. 10 ccm = 1 LPM
2. 100 ccm = 1 LPM
3. 1,000 ccm = 1 LPM
4. 10,000 ccm = 1 LPM

9-30. The overboard leakage rotameter is calibrated at 14.7 psig with an ambient air temperature of how many degrees?

1. 60°F
2. 70°F
3. 75°F
4. 80°F

9-31. The vacuum pump supplied with the 1172AS100 test stand has the capability of evacuating the chamber at a rate of 22.5 cubic feet per minute at an altitude of how many feet?

1. 43,600
2. 45,600
3. 51,600
4. 54,600

9-32. How many prongs are required on the electrical connection plug for the vacuum pump on the 1172AS100 test stand?

1. Two only
2. Two or three
3. Three only
4. Four

Learning Objective: *Identify the maintenance procedures on the 1172AS100 test stand.*

9-33. What is the specific gravity of the fluid that is used to fill the pressure suction manometer?

1. 1.0
2. 1.3
3. 1.7
4. 1.9

9-34. When mixing manometer fluid, the ratio should be 1 part of merian D-2930 to how many parts of distilled water?

1. 0.1
2. 1.0
3. 10.0
4. 100.0

9-35. What color manometer fluid is used in the pressure suction manometer?

1. Green
2. Red
3. Yellow
4. Blue

9-36. What is the gauge guard cutoff pressure for the regulated low-pressure gauge?

1. 100±5 psig
2. 145±5 psig
3. 150±5 psig
4. 170±5 psig

9-37. When performing the altitude chamber and suit simulator tank inward leakage test, you must ascend to 52,000 feet and stabilize for 2 minutes. What is the allowable altitude drop in 20 minutes?

1. 1,000 ft
2. 2,000 ft
3. 3,000 ft
4. 4,000 ft

9-38. How often are pressure leakage tests performed on the 1172AS100 test stand?

1. Daily
2. Weekly
3. Biweekly
4. Monthly

Learning Objective: *Identify the operating characteristics and maintenance requirements of the 59A120 liquid oxygen converter test stand.*

9-39. Which of the following test stands is used to test LOX converters?

1. OTS 565
2. LQTS 565
3. 1172AS100
4. 59A120

9-40. The bell jar assembly on the liquid oxygen converter test stand is used to test items that have more than one area of possible leakage.

1. True
2. False

9-41. When it is operating properly, the relief valve on the bell jar assembly has a range of how many psig?

1. 3 to 5
2. 5 to 15
3. 10 to 15
4. 15 to 30

9-42. The relief valve on the bell jar assembly is leaktight at how many psi?

1. 5
2. 2
3. 3
4. 4

9-43. At what pressure does the relief valve on the bell jar start to relieve pressure?

1. 5 psi
2. 10 psi
3. 15 psi
4. 20 psi

9-44. The converter section of the test stand is protected by the relief valve (RV-11). This valve is set to relieve pressure at how many psig?

1. 15
2. 50
3. 100
4. 110

9-45. The differential pressure gauge (DF-1) has a range of how many inches of water pressure?

1. -10 to +50
2. -50 to +100
3. 0 to 100
4. 0 to 150

9-46. How many linear flow elements are incorporated into the 59A120 test stand?

1. Five
2. Six
3. Three
4. Four

9-47. What is the range of the supply pressure gauge on the 59A120 test stand?

1. 0 to 1,000 psig
2. 0 to 2,000 psig
3. 0 to 3,000 psig
4. 0 to 4,000 psig

9-48. The adjustable regulator (R-1) is preset to deliver how much pressure to the test stand through the oxygen supply valve?

1. 90 psig
2. 160 psig
3. 180 psig
4. 300 psig

9-49. Which of the following pressure gauges indicates the pressure applied to the item under test?

1. PG-1
2. PG-2
3. PG-3
4. PG-4

9-50. Relief valve V-4 prevents excessive pressure buildup in the test stand. At what pressure is this valve leaktight?

1. 90 psig
2. 120 psig
3. 140 psig
4. 160 psig

9-51. Relief valve V-4 is set to relieve pressure at how many psig?

1. 90
2. 120
3. 160
4. 180

9-52. Linear flow element NIP-3 measures flow rates of how many liters per minute?

1. 0-00.25 LPM
2. 0-1.0 LPM
3. 0-50 LPM
4. 0-150 LPM

9-53. The 59A120 test stand is calibrated by the on-site metrology calibration team a minimum of how often?

1. Once a month
2. Every 6 months
3. Yearly
4. Every other year

9-54. When setting the oxygen pressure regulator, a minimum of how much pressure is applied to the regulator?

1. 300 psig
2. 1,000 psig
3. 1,800 psig
4. 2,000 psig

9-55. How much pressure is set on the pressure regulator (R-1)?

1. 110 psig
2. 120 psig
3. 160 psig
4. 180 psig

9-56. When testing the 59A120 test stand for overall leaking, the relief valve (RV–11) should be set to unseat at how many psig?

1. 110
2. 120
3. 130
4. 140

9-57. When performing the overall leakage test, any leaking in the system is indicated by a drop in pressure on the test pressure gauge (PG-1). This pressure drop should not be more than how much?

1. 5 psig in 5 min
2. 5 psig in 10 min
3. 10 psig in 15 min
4. 10 psig in 10 min

9-58. When the bell jar assembly is tested for leakage, the pressure drop indicated on the differential pressure gauge should not be more than 2 inches of H_2O in how many minutes?

1. 5
2. 10
3. 12
4. 15

9-59. What should you use to clean the external parts of the 59A120 test stand?

1. Soap and water
2. a soft lint-free cloth
3. Windex
4. Loxitt

9-60. How often are periodic inspections performed on the liquid oxygen converter test stand?

1. Every 20 hours
2. Every 80 hours
3. Weekly
4. Monthly

9-61 . Which manual would you use to find information on the replacement of the system bleed valve on the 59A120 test stand?

1. NAVAIR 13-1-6.4
2. NAVAIR 13-1-6.1
3. NAVAIR 15-17CB-02
4. NAVAIR 17-1513BC-20